

Assessment Activity Physics for Assessment Resource Centre (ARC)

Course: Physics

Activity name: Analysing models of the universe

Description of activity

You have worked individually and/or as part of a team to extract data/information from a range of sources about the historical development of models of the universe.

The collated data/information from your investigations will be used in this open book assessment activity to:

- construct a timeline to show the historical development of models of the universe from the time of Aristotle to the time of Newton
- present in a 300-word summary of how advances in technology have provided new evidence and scientific knowledge that have changed ideas about models of the universe and provided support for the currently accepted scientific model.

Context

Students have been studying Module 8.5 The Cosmic Engine of the Preliminary Physics course. They have worked in pairs to extract information from appropriate sources about the historical development of ideas about the universe from the time of Aristotle to the time of Newton. They have revised their skills in constructing and representing information using a timeline. Students have investigated how technological developments over this time provided evidence that increased scientific understanding and led to refining and reconceptualising explanations about the structure of the universe.

Area(s) of learning

Knowledge and understanding of:

- the history of physics

Skills in:

- communicating information and understanding
- developing scientific thinking and problem-solving techniques

Outcomes

A student:

- P1 outlines the historical development of major principles, concepts and ideas in physics
- P13 identifies appropriate terminology and reporting styles to communicate information and understanding in physics
- P14 draws valid conclusions from gathered data and information

Criteria for assessing learning

(These criteria would normally be communicated to students with the activity.)

Students will be assessed on their ability to:

- construct a timeline that clearly communicates relevant data/information
- explain how evidence presented supports or refutes each model
- present information clearly, logically and correctly using scientific concepts/ideas.